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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,227	04/05/2006	Zheng Xin Dong	127P/PCT/US	6603

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EXAMINER

TELLER, ROY R

ART UNIT	PAPER NUMBER
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1654

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03/05/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/542,227	Applicant(s) DONG, ZHENG XIN	
	Examiner ROY TELLER	Art Unit 1654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 14-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/05, 10/06</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Applicant's election of group I, claims 1-13 in the reply filed on 6/17/08 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Applicant further elected the compound [A5C₃₁]hPYY(3-36)NH₂, (SEQ ID NO:3).

Claims 14-28 are withdrawn as being drawn to a non-elected invention.

Claims 1-13 are under examination as they read upon the elected compound, SEQ ID NO: 3.

Information Disclosure Statement

The information disclosure statements, received 8/29/05 and 10/13/06, are acknowledged. A signed copy of each is enclosed hereto.

Claim Rejections - 35 USC § 112

Claims 1-7 and 13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

This is a "written description" rejection, rather than an enablement rejection under 35 U.S.C. 112, first paragraph. Applicant is directed to the Guidelines for the Examination of Patent

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Applications Under the 35 U.S.C. 112, ¶ 1 "Written Description" Requirement, Federal Register, Vol. 66, No. 4, pages 1099-1111, Friday January 5, 2001.

Vas-Cath Inc. V. Mahurka, 19 USPQ2d 1111, states that “applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention, for purposes of the “written description” inquiry, is *whatever is now claimed*” (see page 1117).

A review of the language of the claim indicates that these claims are drawn to a compound, i.e., the compound of formula I: (R₂,R₃) A₃-A₄-A₅-A₆-A₇-A₈-A₉-A₁₀-A₁₁-A₁₂-A₁₃-A₁₄-A₁₅-A₁₆-A₁₇-A₁₈-A₁₉-A₂₀-A₂₁-A₂₂-A₂₃-A₂₄-A₂₅-A₂₆-A₂₇-A₂₈-A₂₉-A₃₀-A₃₁-A₃₂-A₃₃-A₃₄-A₃₅-A₃₆-R₁.

A description of a genus may be achieved by means of a recitation of a representative number of species falling within the scope of the genus or of a recitation of structural features common to the members of the genus, which features constitute a substantial portion of the genus. *Regents of the University of California v. Eli Lilly & Co.*, 119 F3d 1559, 1569, 43 USPQ2d 1398, 1406 (Fed. Cir. 1997). In *Regents of the University of California v. Eli Lilly* (43 USPQ2d 1398-1412), the court held that a generic statement which defines a genus of nucleic acids by only their functional activity does not provide an adequate written description of the genus. The court indicated that, while applicants are not required to disclose every species encompassed by a genus, the description of the genus is achieved by the recitation of a representative number of species falling within the scope of the claimed genus. At section B(1), the court states “An adequate written description of a DNA ... requires a precise definition, such as by structure, formula, chemical name, or physical properties, not a mere wish or plan for

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obtaining the claimed chemical invention”.

There are species of the claimed genus disclosed that is within the scope of the claimed genus, *i.e.* SEQ ID NO: 3, 5, 8, 10, 13 and 64. The disclosure of a single disclosed species may provide an adequate written description of a genus when the species disclosed is representative of the genus. However, the present claim encompasses numerous species that are not further described. There is substantial variability among the species.

One of skill in the art would not recognize from the disclosure that the applicant was in possession of the genus of which comprises the compound of the formula I: (R₂,R₃) A₃-A₄-A₅-A₆-A₇-A₈-A₉-A₁₀-A₁₁-A₁₂-A₁₃-A₁₄-A₁₅-A₁₆-A₁₇-A₁₈-A₁₉-A₂₀-A₂₁-A₂₂-A₂₃-A₂₄-A₂₅-A₂₆-A₂₇-A₂₈-A₂₉-A₃₀-A₃₁-A₃₂-A₃₃-A₃₄-A₃₅-A₃₆-R₁.

The written description requirement for a claimed genus may be satisfied through sufficient drawings, or by disclosure of relevant identifying characteristics, *i.e.*, structure or other physical and/or chemical properties, by functional characteristics coupled with a known or disclosed correlation between structure and function, or by a combination of such identifying characteristics, sufficient to show the applicant was in possession of the claimed genus. In the instant case, the specification fails to provide sufficient descriptive information, such as definitive structural or functional features, or critical conserved regions, of the genus and subgenera of proteins to be used in the claimed composition. There is not even identification of any particular portion of the structure that must be conserved. Structural features that could distinguish the proteins in the genus from others are missing from the disclosure. The specification and claims do not provide any description of what other changes should be made. There is no description of the other sites (other than those which applicant has possession of) at

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which variability may be tolerated and there is no information regarding the relation of structure to function. The general knowledge and level of those skilled in the art does not supplement the omitted description because specific, not general, guidance is what is needed. Furthermore, the prior art does not provide compensatory structural or correlative teachings sufficient to enable one of skill to isolate and identify the polypeptides encompassed. Thus, no identifying characteristics or properties of the instant polypeptides are provided such that one of skill would be able to predictably identify the encompassed molecules as being identical to those instantly claimed. Accordingly, in the absence of sufficient recitation of distinguishing identifying characteristics, the specification does not provide adequate written description of the claimed genus. One of skill in the art would not reasonably conclude that the disclosure fails to provide a representative number of species to describe the genus or each subgenus.

The specification does not “clearly allow persons of skill in the art to recognize that [he or she] invented what is claimed” (see *Vas-Cath* at page 1116).

Applicant is reminded that *Vas-Cath* makes clear that the written description provision of 35 U.S.C. 112 is severable from its enablement provision (see page 1115).

All other claims depend directly or indirectly from the rejected claim and are, therefore, also rejected under 35 USC 112, first paragraph for the reasons set forth above.

Claims 1-7 and 13 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a compound of SEQ ID NO: 3, 5, 8, 10, 13 and 64, does not reasonably provide enablement for a compound of the formula I: (R₂,R₃) A₃-A₄-A₅-A₆-A₇-A₈-A₉-A₁₀-A₁₁-A₁₂-A₁₃-A₁₄-A₁₅-A₁₆-A₁₇-A₁₈-A₁₉-A₂₀-A₂₁-

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A22-A23-A24-A25-A26-A27-A28-A29-A30-A31-A32-A33-A34-A35-A36-R1.

. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

In this regard, the application disclosure and claims have been compared per the factors indicated in the decision *In re Wands*, 8 USPQ2d 1400 (Fed. Cir., 1988) as to undue experimentation. The factors include:

- 1) the nature of the invention;
- 2) the breadth of the claims;
- 3) the predictability or unpredictability of the art
- 4) the amount of direction or guidance presented;
- 5) the presence or absence of working examples;
- 6) the quantity of experimentation necessary;
- 7) the state of the prior art; and,
- 8) the relative skill of those skilled in the art;

Each factor is addressed below on the basis of comparison of the disclosure, the claims and the state of the prior art in the assessment of undue experimentation.

The claimed invention is drawn to a compound of formula I : (R2,R3)

A3-A4-A5-A6-A7-A8-A9-A10-A11-A12-A13-A14-A15-A16-A17-A18-A19-A20-A21-

A22-A23-A24-A25-A26-A27-A28-A29-A30-A31-A32-A33-A34-A35-A36-R1.

The breadth of the claims is excessive with regard to claiming a compound of formula I. Applicant has only provided guidance for the use of SEQ ID NO:3, 5, 8, 10, 13 and 64.

Applicant's working examples of SEQ ID NO: 1-30 in example 29 on page 38 of the instant specification shows a binding to the Y2 receptor, but only speaks to possible antisecretory

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effects and the effects on intestinal water and sodium absorption. The absence of working examples dealing with the practice of the invention, an effective amount of any of the peptides, the administration of the compound, is lacking.

In consideration of these factors, it is apparent that there is undue experimentation because of a variability in prediction of outcome that is not addressed by the present application. Absent factual data to the contrary, the amount and level of experimentation needed is undue to practice the invention as claimed.

Accordingly, with respect to the elected invention, others skilled in the art would be unable to practice the invention as claimed without undue experimentation and with a reasonable expectation of success, other than using SEQ ID NO: 3, 5, 8, 10, 13 and 64. All other claims depend directly or indirectly from rejected claims and are, therefore, also rejected under 35 U.S.C. 112, first paragraph for the reasons set forth above.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-13 are rejected under 35 U.S.C. 102(a) as being anticipated by Quay et al. (USPN 7,157,426).

The instant invention is drawn to a compound according to the formula: [A5C₃₁]hPYY(3-36)NH₂, (SEQ ID NO:3).

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Quay et al. discloses a PYY composition comprising the amino acid sequence of SEQ ID NO:2, a 99% match to instant SEQ ID NO: 3. See, for example, SEQ ID NO:2 and claim 1.

Therefore, the reference is deemed to anticipate the instant invention.

Conclusion

All claims are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROY TELLER whose telephone number is (571)272-0971. The examiner can normally be reached on Monday-Friday from 5:30 am to 2:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia Tsang, can be reached on 571-272-0562. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RT
1654
2/26/09

/Christopher R. Tate/
Primary Examiner, Art Unit 1655